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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/613,452	07/03/2003	Mark Betterly	BWC-115US	6598
23122	7590	05/05/2005	EXAMINER	
RATNERPRESTIA P O BOX 980 VALLEY FORGE, PA 19482-0980			SAVAGE, MATTHEW O	
			ART UNIT	PAPER NUMBER
			1724	
DATE MAILED: 05/05/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/613,452

Applicant(s)

BETTERLY, MARK

Examiner

Matthew O. Savage

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 3, 4 and 10-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2 and 5-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 7-3-04, 6-16-04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

Applicant's election without traverse of group I and species 1 in the reply filed on 3-3-05 is acknowledged.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Ross.

With respect to claim 1, Ross discloses a fluid passageway 15 at least partially defined by a U.V. energy transmissive barrier 3, a UV energy source 7 positioned to transmit UV energy through the barrier into the passageway, and a UV energy sensor 55 position to sense UV energy transmitted through the barrier, the sensor being configured to detect a reduced amount of UV energy transmitted through the barrier (see lines 20-44 of col. 2).

Concerning claim 2, Ross discloses the fluid passageway 15 as being configured to accommodate fluid flow.

As to claim 6, Ross et al disclose the UV energy source 7 as being positioned adjacent the barrier 15.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ross in view of Maiden.

Ross fail to specify the UV energy source as including an LED. Maiden discloses that LED UV energy sources 14 are known in the art and suggests that such sources require small amounts of electrical power to operate since they can be powered with batteries 29, 31. It would have been obvious to have modified the UV energy source of Ross so as to have included an LED as suggested by Maiden in order to provide a UV energy source having low power requirements.

Claims 1, 2, and 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wedekamp in view of Siebel et al.

With respect to claim 1, Wedekamp discloses a fluid passageway 14 defined by a U.V. energy transmissive barrier 12, a UV energy source 16 positioned to transmit UV energy through the barrier into the passageway. Wedkamp fails to specify a UV energy sensor positioned to sense UV energy transmitted through the barrier, the sensor being configured to detect a reduced amount of UV energy transmitted through the barrier. Siebel et al disclose the concept of providing a UV energy sensor 6 to sense UV energy transmitted through a barrier (see FIG. 1), the sensors being configured to detect a reduced amount of UV energy transmitted through the barrier (see lines 12-17 and lines 47-48 of col. 4), and teaches that such a means provides an indication as to when an

associated conduit requires cleaning (see lines 27-46 of col. 5). It would have been obvious to have modified the apparatus of Wedekamp so as to have included the UV energy sensor as suggested by Siebel et al in order to provide an indication as to when the conduit required cleaning.

Concerning claim 2, Wedekamp discloses the fluid passageway 14 as being configured to accommodate fluid flow.

As to claim 6, Wedekamp et al disclose the UV energy source 16 as being positioned adjacent the barrier 12.

With respect to claim 7, Wedekamp et al disclose a plurality of UV energy sources 16 (see FIG. 1) but fails to specify a plurality of UV energy sensors, however, providing a UV energy sensor positioned opposite each UV energy source as suggested by Siebel et al would have been obvious in order to multiply the overall sensing ability of the apparatus (see St. Regis Paper Co. v. Bemis Co., Inc., 193 USPQ 8, 11 (7<sup>th</sup> Cir. 1977)).

As to claim 8, Wedekamp discloses the UV energy sources 16 as being positioned adjacent an external surface of the fluid passageway to transmit UV energy through the barrier.

Concerning claim 9, Siebel et al suggests UV energy sensors 6 being positioned adjacent an external surface of the fluid passageway 2 for sensing UV energy transmitted through a barrier.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wedekamp in view of Siebel et al as applied to claim 1 above, and further in view of Koji.

Wedekamp and Siebel et al fail to specify a UV energy source including an LED. Koji discloses an analogous apparatus including a UV energy source including an LED 6' (see FIG. 1) and suggests that such an energy source requires less space, has better efficiency, and a longer lifetime as compared to a UV lamp (see the abstract). It would have been obvious modified the apparatus suggested by Wedekamp and Siebel et al so as to have included an ultraviolet energy source including an LED as suggested by Koji in order to provide an ultraviolet energy source requiring less space, having better efficiency, and a longer lifetime than a conventional UV lamp.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew O. Savage whose telephone number is (571) 272-1146. The examiner can normally be reached on Monday-Friday, 7:00am-3:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on (571) 272-1166. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*M. Savage*  
Matthew O Savage  
Primary Examiner  
Art Unit 1724

mos  
May 3, 2005